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Understanding the Importance of Commercialization and Business Planning – A NASA Perspective

Scott Dockum

NASA SBIR/STTR Phase I/II Program Specialist

Ideation, Point Solution, and Market Stimulation



- The law requires SBIR/STTR programs to consider commercial potential in making selections for SBIR/STTR awards. NASA does this in three ways:
 - Ideation: To encourage the formation of ideas or concepts that could meet NASA mission needs.
 - Point Solution: Solving one particular NASA problem. Point solutions are widely used to fix a problem or implement a new innovation quickly. Also known as Infusion.
 - Market Stimulation: Creating a demand for the innovation both in NASA and outside of NASA. Often called Dual-Use technologies.
- During the solicitation development process, subtopic authors are asked to identify how they envision the subtopic meeting one or more of the categories above.
- The goal is to ensure that innovations that are submitted to the program have the ability to address different markets while also meeting NASA missions.

Why Commercialization and Business Planning is Important?



- Small businesses that apply to the program need to understand and develop their commercialization and business plan early. Questions that need to be asked are?
 - Can my business be successful and sustainable if my innovation becomes part of NASA's industry/technology supply chain or if the innovation leads to a mission or program infusion?
 - Will I need to consider moving the innovation beyond NASA to achieve sustainability of the technology and my business.
 - Should I identify other non-NASA markets to such as other Federal Agencies, commercial market, etc...
- NASA's SBIR/STTR program provides several commercialization opportunities such as:
 - Post Phase II funding from NASA SBIR/STTR Program – Provides additional funding to support additional R&D for the innovation and scale up to be ready for infusion opportunities.
 - Phase III funding from a NASA Program that infuses the technology
- Understanding these things are critical as small business must start planning at the early stages to determine their ability to commercialize and capitalize on the SBIR investment at Phase I and II.

How Does NASA Evaluate Commercialization and Business Planning at Phase I?



- At Phase I NASA selects proposals based on:
 - The most advantageous research and development paths that address the subtopic(s) that are found in the solicitation
 - NASA looks for proposals that have the the best scientific/technical merit and shows strong promise to prove feasibility
 - NASA also looks to see how the proposal's provide a benefit to NASA interests including both NASA and non-NASA markets
- Each proposal is evaluated and scored on its own merits using these factors:
 - Scientific/Technical Merit and Feasibility
 - Experience, Qualifications and Facilities
 - Effectiveness of the Proposed Work Plan
 - ★• **Commercial Potential and Feasibility**
 - Price Reasonableness
- New for 2021, NASA is implementing a Technical and Business Assistance (TABA) program. At Phase I, NASA is encouraging awardees to use TABA funding to develop a Commercialization and Business Plan which will be required with the submission of a Phase II proposal. For more information on the new NASA TABA program, see the accompanying presentation titled **"Overview of NASA's Technical and Business Assistance (TABA) Program"**

How Does NASA Evaluate Commercialization and Business Planning at Phase II?



- Phase II SBIR and STTR proposals are reviewed by a committee of outside consultants familiar with NASA technologies and external commercial markets
- The intent of the commercial review is to:
 - Provide NASA with an assessment of the ability of the proposing company to commercialize their technology outside of NASA and to become a sustainable provider to NASA
 - Provide the company with an assessment of their plan by giving advice for improvements and also how to recognize additional potential commercialization opportunities
 - Commercial reviewers review all the parts found in Part 7 of the Phase II proposal.

How Does NASA Evaluate Commercialization and Business Planning at Phase II?



- Ability of a company to commercialize technology based on:
 - Understanding of the internal and external market place
 - Market segmentation, market size, target customers, etc...
 - Competitive landscapes and barriers to entry
- Ability to demonstrate a viable plan to address and penetrate market
 - Pro-forma revenues
 - Identified possible risks and discussed mitigations
- Ability to carry out commercialization plan
 - Capitalization / Staffing / Capital Commitment from outside sources
 - Intellectual Property protection
 - Has or plans to seek mentoring / assistance
 - Cash Flow and Balance Sheet
- A high commercial score means:
 - A company has identified and understands an addressable market
 - A company has provided a viable plan to address the market
 - A company has a capitalization plan and potential to carry out that plan

How Does NASA Evaluate Commercialization and Business Planning at Phase II?



Letters of Capital Commitment

- *Letters of support and general interest from outside parties are discouraged*
 - They will not be reviewed or considered as part of the evaluation

However – Letters of Capital Commitment/funding support are considered as part of the evaluation process

These letters should:

- Specify the level of funding commitments, other sources to be provided and any funding contingencies/conditions, in addition to timing of the funding being made available to the SBC
- Letters of commitment must be signed by a duly authorized representative of the outside funding source and SBC with the authority to obligate funding

Post-Phase II Opportunities



- As part of the Commercialization and Business Planning, small businesses should be considering early on additional funding opportunities beyond Phase II.
- The NASA SBIR/STTR Program has three initiatives for supporting its small business partners beyond the basic Phase II award
 - Phase II Extended (Phase II-E) contract option
 - Phase II Sequentials
 - Civilian Commercialization Readiness Pilot Program (CCRPP)

Please refer to <http://sbir.nasa.gov/content/post-phase-ii-initiatives> for eligibility, application deadlines, matching requirements and further information

I – Corps



- When applying for Phase I, you have an opportunity to apply to be in the NASA I-Corps Program which can provide excellent input into the Commercialization and Business plan that is required as part of the Phase II submission.
- The NASA SBIR/STTR Program is partnered with the National Science Foundation (NSF) to offer the NSF Innovation Corps program (I-Corps™).
 - I-Corps focuses on educating teams on how to translate technologies from the laboratory to the marketplace. **Its all about “Customer Discovery” and validating your business proposition.**
 - Participation in I-Corps will require selected companies to conduct in person interviews with potential customers/buyers and report back to NSF on these meetings. Selected companies are also required to take I-Corp based training during the duration of the program.
- Selected companies will be awarded training grants, separate from their Phase I contract, that must be completed prior to the conclusion of Phase I contracts
- The program is described further at <http://sbir.nasa.gov/content/I-Corps>



Thanks for Watching this Presentation